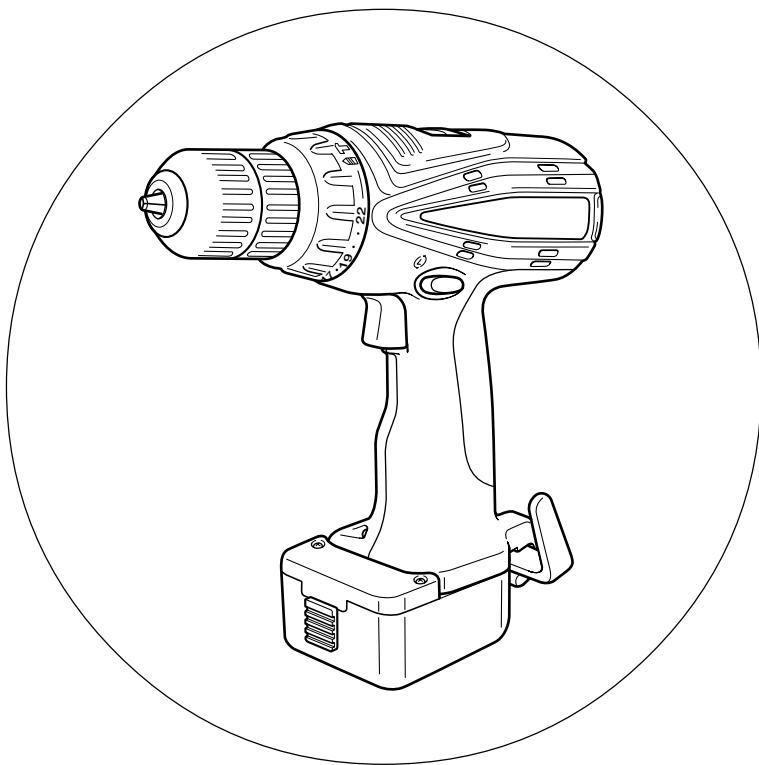


Hitachi Koki

Cordless Impact Drill 日立牌充電式震動電鑽

DV 12DV

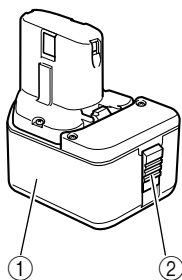
Handling instructions
使用說明書



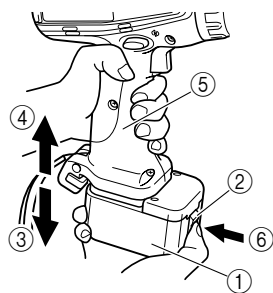
Read through carefully and understand these instructions before use.
使用前務請詳加閱讀。

HITACHI

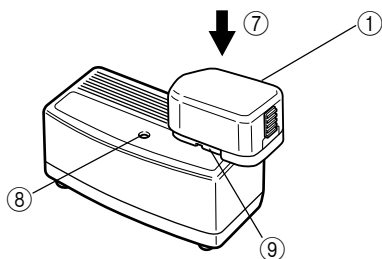
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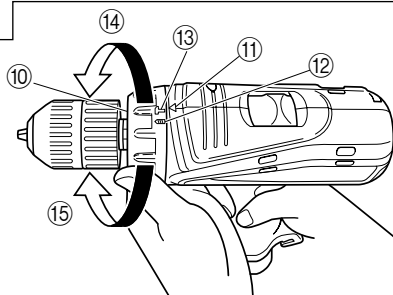
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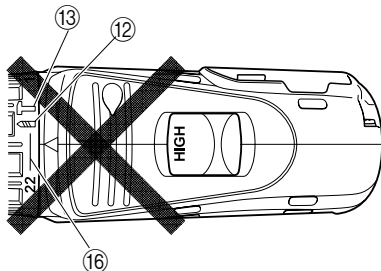
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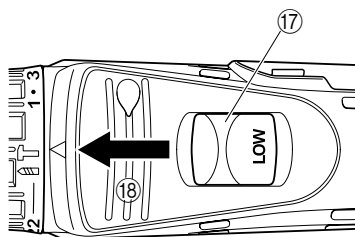
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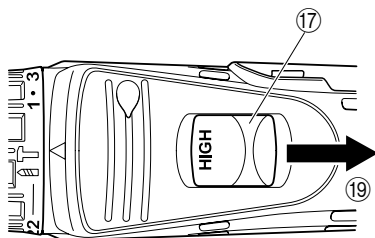
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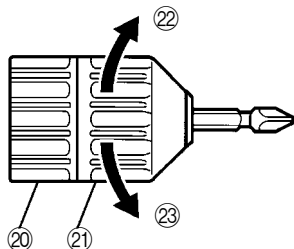
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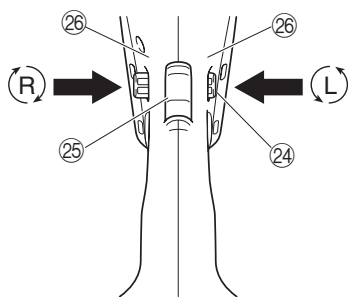
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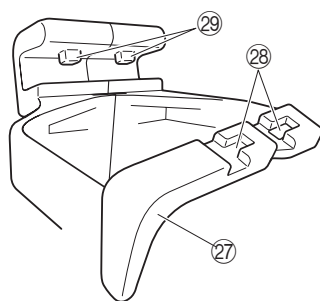
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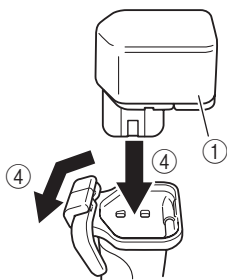
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10



11



①	Rechargeable battery	充電式電池
②	Latch	插銷
③	Pull out	拉出
④	Insert	插入
⑤	Handle	把手
⑥	Push	推
⑦	Insert	插入
⑧	Pilot lamp	指示燈
⑨	Hole for connecting the rechargeable battery	充電式電池連接孔
⑩	Cap	蓋子
⑪	Triangle mark	三角標記
⑫	Drill mark	電鑽標記
⑬	Hammer mark	錘子標記
⑭	Weak	弱
⑮	Strong	強
⑯	White line	白線
⑰	Shift knob	變速開關
⑱	Low speed	低速
⑲	High speed	高速
⑳	Ring	環
㉑	Sleeve	導套
㉒	Tighten	旋緊
㉓	Loosen	旋鬆
㉔	Selector button	選擇按鈕
㉕	Trigger switch	扳機開關
㉖	(R) and (L) marks	(R) 和 (L) 標記
㉗	Hook	掛鉤
㉘	Ditch	槽
㉙	Projection	突起

GENERAL OPERATIONAL PRECAUTIONS

1. Keep work area clean. Cluttered areas and benches invite accidents.
2. Avoid dangerous environment. Don't expose power tools and charger to rain. Don't use power tools and charger in damp or wet locations. And keep work area well lit. Never use power tools and charger near flammable or explosive materials. Do not use tool and charger in presence of flammable liquids or gases.
3. The appliance is not intended for use by young children or infirm persons without supervision. Young children should be supervised to ensure that they do not play with the appliance. All visitors should be kept safe distance from work area.
4. Store idle tools and charger. When not in use, tools and charger should be stored in dry, high or locked-up place-out of reach of the children and infirm persons. Store tools and charger in a place where the temperature is less than 40°C.
5. Don't force tool. It will do the job better and safer at the rate for which it was designed.
6. Use right tool. Don't force small tool or attachment to do the job of a heavy duty tool.
7. Wear proper apparel. Do not wear loose clothing or jewelry. They can be caught in moving parts. Rubber gloves and non-skid footwears are recommended when working outdoor.
8. Use eye protection with most tools. Also use face or dust mask if cutting operation is dusty.
9. Don't abuse cord. Never carry charger by cord or yank it to disconnect from receptacle. Keep cord from heat, oil and sharp edges.
10. Secure work. Use clamps or a vise to hold work. It's safer than using your hand and it frees both hands to operate tool.
11. Don't overreach. Keep proper footing and balance at all times.
12. Maintain tools with care. Keep tools sharp at all times, and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
13. When the charger is not in use, or when being maintained and inspected, disconnect its power cord from the receptacle.
14. Remove chuck wrenches and wrenches. Form habit of checking to see that wrenches are removed from tool before turning it on.
15. Avoid accidental starting. Don't carry tool with finger on switch.
16. To avoid danger, always use only the specified charger.
17. Use only genuine HITACHI replacement parts.
18. Do not use power tools for applications other than those specified in the Handling Instructions.
19. To avoid personal injury, use only the accessories or attachment recommended in these handling instructions or in the HITACHI catalog.
20. Let only the authorized service center do the repairing. The Manufacturer will not be responsible for any damages or injuries caused by repair by the unauthorized persons or by mishandling of the tool.
21. To ensure the designed operational integrity of power tools and charger, do not remove installed covers or screws.
22. Always use the charger at the voltage specified on the nameplate.
23. Do not touch movable parts or accessories unless the power source has been disconnected.
24. Always charge the battery before use.
25. Never use a battery other than that specified. Do not connect a usual dry cell, a rechargeable battery other than that specified or a car battery to the power tool.
26. Do not use any transformer that has a booster.
27. Do not charge the battery from an engine electric generator or DC power supply.
28. Always charge indoors. Because the charger and battery heat slightly during charging, charge the battery in a place not exposed to direct sunlight; where the humidity is low and the ventilation is good.
29. Before starting to work in a high place, pay attention to the activities below to make sure there are no people below.
30. Use the exploded assembly drawing on this handling instructions only for authorized servicing.
31. If the supply cord is damaged, it must be replaced by the manufacture or its service agent or a similiary qualified person in order to avoid a hazard.

PRECAUTIONS FOR CORDLESS IMPACT DRILL

1. Always charge the battery at a temperature of 10–40°C. A temperature of less than 10°C will result in over charging which is dangerous. The battery cannot be charged at a temperature higher than 40°C. The most suitable temperature for charging is that of 20–25°C.
2. When one charging is completed, leave the charger at least 15 minutes before the next charging of battery.
Do not charge more than two batteries consecutively.
3. Do not charge the battery for more than 2 hours. The battery will be fully charged in about 1 hour and charging should be stopped when 1 hour has elapsed from commencement. Disconnect the charger power cord from the receptacle.
4. Do not allow foreign matter to enter the hole for connecting the rechargeable battery.
5. Never disassemble the rechargeable battery and charger.
6. Never short-circuit the rechargeable battery. Short-circuiting the battery will cause a great electric current and overheat. It results in burn or damage to the battery.
7. Do not dispose of the battery in fire.
If the battery is burnt, it may explode.
8. When drilling in wall, floor or ceiling, check for buried electric power cord, etc.
9. Bring the battery to the shop from which it was purchased as soon as the post-charging battery life becomes too short for practical use. Do not dispose of the exhausted battery.
10. Using an exhausted battery will damage the charger.
11. Do not insert object into the air ventilation slots of the charger.
Inserting metal objects or inflammables into the charger air ventilation slots will result in electrical shock hazard or damaged charger.
12. When mounting a bit into the keyless chuck, tighten the sleeve adequately. If the sleeve is not tight, the bit may slip or come off, causing injury.

SPECIFICATIONS

POWER TOOL

Model			DV12DV
No-load speed (Low/High)			0 – 350/0 – 1250/min
No-load impact rate (Low/High)			0 – 5250/0 – 18750/min
Capacity	Drilling	Brick	10 mm
		Wood	18 mm
		Metal	Steel: 10 mm, Aluminum: 10 mm
	Driving	Machine screw	6 mm
		Wood screw	5.1 mm (diameter) × 32 mm (length) (Requires a pilot hole)
Rechargeable battery			EB1212S: Ni-Cd 12 V (1.2 Ah, 10 cells)
Weight			1.7 kg

CHARGER

Model	UC12SD
Charging time	Approx. 1 hour (at 20°C)
Charging voltage	12 V
Weight	1.4 kg

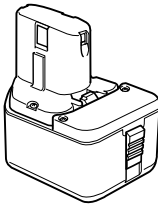
STANDARD ACCESSORIES

DV12DV	① Plus driver bit (No. 2 × 55L)	1
	② Charger (UC12SD)	1
	③ Plastic case	1
	④ Hook	1

Standard accessories are subject to change without notice.

OPTIONAL ACCESSORIES(sold separately)

1. Battery (EB1212S)



2. Drill bit for brick
Diameter, 6.5 mm, 8 mm, 9.5 mm, 10 mm

Optional accessories are subject to change without notice.

APPLICATIONS

- Drilling of brick and concrete block, etc.
- Driving and removing of machine screws, wood screws, tapping screws, etc.
- Drilling of various metals.
- Drilling of various woods.

BATTERY REMOVAL/INSTALLATION

1. Battery removal

Hold the handle tightly and push the battery latch to remove the battery (see **Figs. 1** and **2**).

CAUTION

Never short-circuit the battery.

2. Battery installation

Insert the battery while observing its polarities (see **Fig. 2**).

CHARGING

Before using the impact drill, charge the battery as follows.

1. Insert the battery into the charger.

Insert the battery firmly while observing its direction, until it contacts the bottom of the charger. (See **Figs. 1** and **3**.)

CAUTION

The UC12SD model is the exclusively designed charger. These cannot charge batteries except the specified batteries.

It is possible to insert the batteries other than the specified into the charger and some of them may light up the pilot lamps. However, you are requested to exercise utmost caution not to charge batteries other than specified ones because these can not only be charged but also such actions can result in the malfunction of charger.

2. Connect the charger power cord to the receptacle. Connecting the power cord will turn on the charger (the pilot lamp lights up).

CAUTION

If the pilot lamp does not light up, pull out the power cord from the receptacle and check the battery mounting condition.

About 1 hour is required to fully charge the battery at a temperature of about 20°C. The pilot lamp goes off to indicate that the battery is fully charged.

The battery charging time becomes longer when a temperature is low or the voltage of the power source is too low.

When the pilot lamp does not go off even if more than two hours have elapsed after starting of the charging, stop the charging and contact your HITACHI AUTHORIZED SERVICE CENTER.

CAUTION

If the battery is heated due to direct sunlight, etc., just after operation, the charger pilot lamp may not light up. At that time, cool the battery first, then start charging.

3. Disconnect the charger power cord from the receptacle.
4. Hold the charger tight and pull out the battery.

PRIOR TO OPERATION

1. Setting up and checking the work environment

Check if the work environment is suitable by following the precautions.

HOW TO USE

1. Confirm the cap position (see Fig. 4)

The three modes of screwdriver, drill and impact drill can be switched by the position of the cap in this unit.

- (1) When using this unit as a screwdriver, line up the one of the numbers "1, 3, 5 ... 22" on the cap, or the white dots, with the triangle mark on the outer body.
- (2) When using this unit as a drill, align the cap drill mark "▲" with the triangle mark on the outer body.
- (3) When using this unit as an impact drill, align the cap hammer mark "T" with the triangle mark on the outer body.

CAUTION

- The cap cannot be set between the numerals "1, 3, 5 ... 22" or the white dots.
- Do not use with the cap set at the white line between numbers "22" and the drill mark "▲". Doing so may cause damage. (See Fig. 5)

2. Tightening torque adjustment

- (1) Tightening torque
Tightening torque should correspond in its intensity to the screw diameter. When too strong torque is used, the screw head may be broken or be injured. Be sure to adjust the cap position according to the screw diameter.
- (2) Tightening torque indication
The tightening torque differs depending on the type

of screw and the material being tightened.

The unit indicates the tightening torque with the numbers "1, 3, 5 ... 22" on the cap, and a white dots. The tightening torque at position "1" is the weakest and the torque is strongest at the highest number. (See Fig. 4)

- (3) Adjusting the tightening torque

Rotate the cap and align the numbers "1, 3, 5 ... 22" on the cap, or the white dots with the triangle mark on the outer body. Adjust the cap in the weak or the strong torque direction according to the torque you need.

CAUTION

- The motor rotation may be locked to cease while the unit is used as drill. While operating the impact drill, take care not to lock the motor.
- Too long hammering may cause the screw broken due to excessive tightening force.

3. Rotation to Impact changeover (See Fig. 4)

The "Rotation (Rotation only)" and "Impact (Impact + Rotation)" can be switched by aligning the drill mark "▲" or the hammer mark "T" with the triangle mark on the outer body.

- To make holes in the metal, wood or plastic, switch to "Rotation (Rotation only)".
- To make holes in bricks or concrete blocks, switch to "Impact (Impact + Rotation)".

CAUTION

If an operation which is normally performed at the "Rotation" setting is performed at "Impact" setting, the effect of making holes does not only decrease but it may also damage the bit or other parts.

4. Change rotation speed

Operate the shift knob to change the rotational speed. Move the shift knob in the direction of the arrow (see Fig. 6 and 7).

When the shift knob is set to "LOW", the drill rotates at a low speed. When set to "HIGH", the drill rotates at a high speed.

CAUTION

- When changing the rotational speed with the shift knob, confirm that the switch is off. Changing the speed while the motor is rotating will damage the gears.
- When setting the shift knob to "HIGH" (high speed) and the position of the cap is "17" or "22", it may happen that the clutch does not engaged and that the motor is locked. In such a case, please set the shift knob to "LOW" (low speed).
- If the motor is locked, immediately turn the power off. If the motor is locked for a while, the motor or battery may be burnt.

5. The scope and suggestions for uses





The usable scope for various types of work based on the mechanical structure of this unit is shown in Table 1.

Table 1 in Table 1.

Work		Suggestions
Drilling	Brick	Use for drilling purpose.
	Wood	
	Steel	
	Aluminum	
Driving	Machine screw	Use the bit and socket matching the screw diameter.
	Wood screw	Use after drilling a pilot hole.

6. How to select tightening power and rotational speed

Table 2

Use		Cap Position	Rotating speed selection (Position of the shift knob)	
			LOW (Low speed)	HIGH (High speed)
Driving	Machine screw	1 — 22	For 4 mm or smaller diameter screw.	For 6 mm or smaller diameter screw.
	Wood screw	1 — 	For 5.1 mm or smaller nominal diameter screw.	For 3.8 mm or smaller nominal diameter screw.
Drilling	Brick		——	For drilling with a carbide tipped drill bit.
	Wood		For 18 mm or smaller diameters.	For 18 mm or smaller diameters.
	Metal		For drilling with a metal working drill bit.	——

CAUTION

- The selection examples shown in **Table 2** should be considered as general standard. As different types of tightening screws and different materials to be tightened are used in actual works proper adjustments are naturally necessary.
- When using the impact drill with a machine screw at HIGH (high speed), a screw may damage or a bit may loose due to the tightning torque is too strong. Use the impact drill at LOW (low speed) when using a machine screw.

7. Mounting and dismounting of the bit

- (1) Mounting the bit
- After inserting a driver bit, etc. into the keyless drill chuck, firmly grasp the ring and tighten the sleeve by turning it toward the right (in the clockwise direction as viewed from the front). (See **Fig. 8**)
- If the sleeve becomes loose during operation, tighten it further. The tightening force becomes stronger when the sleeve is tightened additionally.
- (2) Dismounting the bit

Firmly grasp the ring and loosen the sleeve by turning it toward the left (in the counter-clockwise direction as viewed from the front). (See **Fig. 8**)

CAUTION



When it is no longer possible to loosen the sleeve, use a vise or similar instrument to secure the bit. Set the clutch mode between 1 and 11 and then turn the sleeve to the loose side (left side) while operating the clutch. It should be easy now to loosen the sleeve.

NOTE

- There is a plus driver bit on side of the main unit. The bit can be removed by pulling it forward. After using the bit, make sure to firmly attach it to the main body again.

8. Confirm that the battery is mounted correctly.

9. Check the rotational direction

The bit rotates clockwise (viewed from the rear side) by pushing the R-side of the selector button. The L-side of the selector button is pushed to turn the bit counterclockwise. (See **Fig. 9**). (The  and  marks are provided on the body.)

CAUTION

Always use this unit with clockwise rotation, when using it as an impact drill.

10. Switch operation

- When the trigger switch is depressed, the tool rotates. When the trigger is released, the tool stops.
- The rotational speed of the drill can be controlled by varying the amount that the trigger switch is pulled. Speed is low when the trigger switch is pulled slightly and increases as the trigger switch is pulled more.

NOTE

- A peep sound may be produced when the motor is about to rotate; This is only a noise, not a machine failure.

11. For drilling into brick

Excessive pressing force never increases drilling speed. It will not only damage the drill tip or reduce working efficiency, but could also shorten the service life of drill bit. Operate the impact drill within 10-15 kg pressing force while drilling into brick.

12. Using the hook

The provided hook is so designed that it can be installed and removed on either right or left by one touch.

Use it correctly as occasion demands.

(1) Installing the hook

To begin with, remove the battery from the tool. Subsequently, insert the hook so that the grooves at 2 locations of the hook and the 2 protrusions of the hook installing part of the tool come together, check and confirm that the hook is securely fixed, and then install the battery. (See **Figs. 10** and **11**)

(2) Removing the hook

Remove the hook following the order of installation in reverse.

CAUTION

- Fix the hook securely before use. Any use with imperfect installation of the hook as is can result in injuries.
- When you use the hook, be absolutely sure that it is in a state where the battery is installed. If you use it in a state where the battery is removed, the hook can come off or drop and result in injuries.
- When you carry it hanging on a waist belt, do not install it on the drill chuck, but you can do so on the driver bit. If drills and the like with a sharp point are installed, injuries can result.

MAINTENANCE AND INSPECTION

1. Inspecting the tool

Since use of a dull tool will degrade efficiency and cause possible motor malfunction, sharpen or replace the tool as soon as abrasion is noted.

2. Inspecting the mounting screws

Regularly inspect all mounting screws and ensure that they are properly tightened. Should any of the screws be loose, retighten them immediately. Failure to do so could result in serious hazard.

3. Cleaning on the outside

When the impact drill is stained, wipe with a soft dry cloth or a cloth moistened with soapy water. Do not use chloric solvents, gasoline or paint thinner, for they melt plastics.

4. Storage

Store the impact drill in a place in which the temperature is less than 40°C and out of reach of children.

NOTE

Due to HITACHI's continuing program of research and development, the specifications herein are subject to change without prior notice.

作業上的一般注意事項

1. 工作場所應打掃乾淨，清理妥當。雜亂無章將導致事故。
2. 避免危險的環境，請勿讓電動工具與充電器淋到雨，不可在潮濕地方使用電動工具和充電器，工作地點要保持明亮。請勿在易燃或爆炸性物質附近使用電動工具和充電器。不可在存放易燃液體或氣體的地方使用電動工具和充電器。
3. 在無監督的情況下小孩或體弱者不適宜使用此電動工具。應監督小孩不要讓其玩耍電動工具。所有訪客均須保持安全距離。
4. 保存現未使用的工具和充電器。未使用電動工具和充電器時，須將它們存放在乾燥處、高處或能上鎖處，以防止小孩和體弱者取到。請將電動工具和充電器存放在溫度低於 40°C 地方。
5. 不得使勁用力推壓。電動工具需按設計條件才能有效而安全地工作。絕不可勉強。
6. 妥選使用工具。不可用小型工具或附件去幹重活。
7. 服裝要穿戴齊整。衣服或服飾不可鬆馳，以免捲入活動部件內。在室外工作時，最好戴橡膠手套，穿上鞋襪。
8. 使用電動工具時，大部分需要戴安全眼鏡。如果作業中灰塵多，還要戴上面具或防塵口罩。
9. 塞繩不可濫用。充電器切勿拿著塞繩攪動或從插座中拔出。不可讓塞繩受熱、沾油或碰到銳利的棱角。
10. 作業以安全第一為原則。工件要用夾具或臺鉗卡緊。這樣做，比用手按壓更為可靠，也能夠讓雙手專心操作。
11. 作業時腳步要站穩，身體姿勢要保持平衡。
12. 電動工具要小心保養。刀具要經常保持鋒利、清潔，以確保性能與安全。請按照潤滑和更換的附件說明進行。
13. 充電器不用時或維修檢查時，務請將充電器的插頭從插座中拔出。
14. 拆下卡盤扳手和扳手。打開開關之前，總要先檢查扳手是否從工具上卸下。
15. 謹防不慎打開開關。搬運鑽機時，請勿將手指攔在開關上。
16. 請勿使用未經指定的充電器以免發生危險。
17. 只能使用日立指定的更換零件。
18. 不得使用電動工具去進行規定以外的其它作業。
19. 為了防止人體受傷，只能使用本說明書或日立牌產品目錄中所指定的附件。
20. 只能請授權的服務店來修理本工具。對於因非授權者的修理或因錯誤使用了本工具而造成的工具損傷或人體傷害，本製造公司概不負責。
21. 為了保證設計的完整性，電動工具和充電器的蓋罩和螺釘類不可隨便拆除。
22. 務請在銘牌上規定的電壓下使用充電器。

23. 除非電線插頭已從電源插座拆下，絕不可接觸轉動部分或附件。
24. 使用前務請充電。
25. 請勿使用未經指定的電池。請勿將未經指定的普通乾電池、充電式電池或汽車蓄電池連接於電動工具上。
26. 請勿使用含有昇壓器的變壓器。
27. 請勿用引擎發電機或直流電源裝置對電池進行充電。
28. 務請在室內進行充電。充電時，充電器和電池會稍微變熱，因此，不要在直射陽光處充電，而應在濕度低、通風好的陰涼處進行充電。
29. 在高處作業時，要注意下面的動靜。作業前，應先確認下面無人。
30. 進行授權服務時，請使用本說明書中的組裝分解圖。
31. 如果電源線破損，必須由廠家或其維修代理店或具有同等資格的技术人員更換，以避免發生危險。

充電式震動電鑽使用上的注意事項

1. 務請在 10~40°C 的溫度下進行充電。溫度低於 10°C 將會導致充電過度，極其危險。電池不能在高於 40°C 的溫度下充電。最適合於充電的溫度是 20~25°C。
2. 一次充電完成後，請將充電器擱置 15 分鐘以上，然後再進行下一次充電。請勿連續給兩節以上的電池充電。
3. 電池充電不許超過 2 小時。大約 1 小時，電池即可完全充電，開始充電後經過 1 小時，即停止充電。此時，應即將充電器電源線從交流電插座中拔出。
4. 勿讓雜質進入充電電池連結口內。
5. 切勿拆卸充電式電池與充電器。
6. 切勿使充電式電池短路。使電池短路將會造成很大的電流和過熱，從而燒壞電池。
7. 請勿將電池丟入火中。電池受熱將會爆炸。
8. 在牆壁、地板或天花板上鑽孔時，請檢查有無埋入電線等。
9. 充電後電池壽命太短不夠使用時，請盡快將電池送往經銷店。不可將用過的電池亂丟。
10. 請勿使用耗竭了的電池，否則將會損壞充電器。
11. 請勿將異物插入充電器的通風口。若將金屬異物或易燃物插入通風口的話，將會引起觸電事故或使充電器受損。
12. 將鑽頭裝進無開關卡盤時，請適當地旋緊筒套。如不將筒套旋緊的話，鑽頭將會滑動或脫落，從而引起人體受傷事故。

規 格

電動工具

型式			DV12DV
無負荷速度（低/高）			0-350/0-1250 轉/分
無負荷沖擊速率（低/高）			0-5250/0-18750 轉/分
能力	鑽孔	磚塊	10 mm
		木料	18 mm
		金屬	鋼材：10 mm・鋁材：10 mm
	螺絲 緊固	機用螺絲	6 mm
		木螺絲	5.1 mm（直徑）× 32 mm（長） （應有導孔）
充電式電池			EB1212S：Ni-Cd 12 V（1.2 Ah，10 節電池）
重量			1.7 kg

充電器

型式	UC12SD
充電時間	約 1 小時（20℃ 時）
充電電壓	12 V
重量	1.4 kg

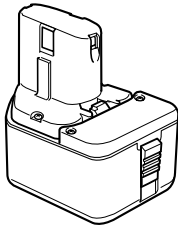
標 準 附 件

選購附件（分開銷售）

DV12DV	① 十字槽頭螺絲刀頭 （2 號×55L）..... 1
	② 充電器（UC12SD）..... 1
	③ 塑料盒 1
	④ 掛鉤 1

標準附件可能不預先通告而徑予更改。

1. 電池（EB1212S）



2. 磚塊用鑽頭

直徑 6.5 mm，8 mm，9.5 mm，10 mm

選購附件可能不預先通告而徑予更改。

用途

- 鑽磚塊和混凝土塊等。
- 旋緊和拆除機用螺絲、木螺絲、自攻螺絲等。
- 鑽各種金屬。
- 鑽各種木料。

電池的拆卸/安裝法

1. 電池的拆卸法

請先緊抓住把手、然後再推壓電池插銷以拆下電池（見圖 1 和圖 2）。

注意

請勿使電池短路。

2. 電池的安裝法

請先確認了電池的正負極後，再將電池插進去（見圖 2）。

充電

使用電動工具之前，按下述方法將電池進行充電。

1. 將電池插入充電器。

按正確的電極方向插入電池直至其接觸到充電器底部。（見圖 1 和圖 3）

注意

UC12SD 型為專用充電器。此充電器無法給非指定的電池充電。雖能將非指定的電池插入充電器內且指示燈可能會點亮，但要提請您特別注意，切勿給非指定的電池充電，因為這不僅無法給這種電池充電，而且還會導致充電器發生故障。

2. 將充電器的電源線插頭插入插座。

接好電源線後便開始充電（此時指示燈亮起）。

注意

如果指示燈不亮，則請從插座上拔出電源線插頭並檢查電池的安裝情況。

在約 20°C 的溫度下約需 1 小時便可完全充電。指示燈熄滅表示電池已經充好。

如果溫度或電源電壓偏低，電池充電時間則會延長。

如果充電已超過兩個小時而指示燈仍不熄滅，則應停止充電並與您的日立授權維修中心聯繫。

注意

作業停止後，如電池（因曬太陽等原因）而變熱，充電指示燈會不亮。這時，應先讓電池冷卻，然後再充電。

3. 將充電器電源線從交流電插座中拔出。
4. 抓住充電器，將電池拉出。

作業之前



1. 裝配及工作環境的檢查

請仔細地檢查工作環境是否妥當。


使用方法

1. 確認蓋子的位置（見圖 4）

本機的旋緊轉矩可根據蓋子的位置設定來調節。

- (1) 當把本機作為起子機使用時，請將蓋子上的“1、3、5……22”中的某個數字或白點與機身外側上的三角標記對齊。
- (2) 當把本機作為鑽機來使用時，請將蓋子的鑽機標記“”與機身外側上的三角標記對齊。
- (3) 當把本機作為衝擊鑽來使用時，請將蓋子上的錘子標記“”與機身外側上的三角標記對齊。

注意

- 蓋子不能設在數字“1、3、5……22”之間或白點之間。
- 當蓋子被設於數字“22”與鑽機標記“”之間的白線處時，請勿使用本機。否則可能會造成損壞。（見圖 5）

2. 旋緊轉矩的調節

(1) 旋緊轉矩

旋緊轉矩的強度應與螺絲直徑相對應。如果轉矩過大，螺絲頭則會受損或折斷。務請按螺絲直徑來調節蓋子的位置。

(2) 旋緊轉矩的指示

螺絲類型及受緊固的材料不同，則旋緊轉矩也不同。

本機採用蓋子上的數字“1、3、5……22”以及白點來指示旋緊轉矩。旋緊轉矩在位置“1”時最小，在最大數字處時最大。（見圖 4）



(3) 調節旋緊轉矩

轉動蓋子並使蓋子上的數字“1、3、5……22”或白點與機身外側上的三角標記對齊。

注意

- 當把本機用作鑽機時，馬達可能會被鎖住而停止轉動。請在使用起子電鑽機過程中不要鎖住馬達。
- 如果衝擊時間過長，螺絲可能會因旋緊力過大而折斷。

3. 從旋轉變為衝擊（見圖 4）

將電鑽標記“ ”或錘子標記“ ”與機身外側上的三角標記對齊，便可在“旋轉（僅旋轉）”和“衝擊（衝擊+旋轉）”之間切換。

- 要在金屬、木材或塑料上鑽孔時，請切換為“旋轉（僅旋轉）”。
- 要在磚塊或混凝土塊上鑽孔時，請切換為“衝擊（衝擊+旋轉）”。

注意

若通常在“旋轉”設定下進行的操作在“衝擊”設定下進行，鑽孔效果不但不會減弱，反而可能會損壞鑽頭或其他零部件。

4. 改變轉速

請用變速開關來改變轉速。請按箭頭方向移動變速開關（見圖 6 和圖 7）。

如果變速開關被設在“LOW”位置，鑽機則低速旋轉；如果變速開關被設在“HIGH”位置，鑽機則高速旋轉。

注意

- 當用變速開關改變轉速時，應確保電源開關已被斷開。
如果在馬達旋轉過程中改變速度，則會損壞齒輪。
- 當把變速開關設為“HIGH”（高速），且蓋子位於“17”或“22”時，可能會出現離合器不能嚙合和馬達被鎖住的現象。在這種情況下，請將變速開關設為“LOW”（低速）。
- 如果馬達被鎖住，則應立即斷開電源。如果馬達的鎖定狀態持續一會兒，馬達或電池可能會被燒毀。

5. 使用範圍和建議





表 1 給出了基於本機機械結構的各種可用工作範圍。

表 1

工作		建議
鑽孔	磚塊	用於鑽孔。
	木料	
	鋼材	
	鋁材	
螺絲緊固	機用螺絲	使用與螺絲直徑相配的鑽頭或套筒。
	木螺絲	鑽好導孔後使用。

6. 選擇旋緊力和轉速的方法

表 2

用途		蓋子的位置	轉速選擇（變速開關的位置）	
			LOW（低速）	HIGH（高速）
螺絲緊固	機用螺絲	1 - 22	用於直徑在 4 mm 以下的螺絲。	用於直徑在 6 mm 以下的螺絲。
	木螺絲	1 - 	用於公稱直徑在 5.1 mm 以下的螺絲。	用於公稱直徑在 3.8 mm 以下的螺絲。
鑽孔	磚塊		——	用於採用碳化物鑽頭的鑽孔作業。
	木料		用於 18 mm 以下的直徑。	用於 18 mm 以下的直徑。
	金屬		用於採用金屬加工鑽頭的鑽孔作業。	——

注意

- 表 2 中給出的選擇例子應作為一般標準來考慮。在實際工作中使用的都是不同類型的緊固螺絲和受緊固的材料，因此理應進行適當的調節。
- 在 HIGH（高速）設定下用機用螺絲使用衝擊鑽頭時，因緊固轉矩太強，可能發生螺絲損壞或鑽頭鬆弛。使用機用螺絲時，請在 LOW（低速）設定下使用衝擊電鑽。

7. 鑽頭的安裝和拆卸

(1) 安裝鑽頭

當把起子機鑽頭等插入無鍵鑽機夾盤後，請緊握環，同時右轉（從前方看時為順時針方向）導套將其旋緊。（見圖 8）

- 如果導套在作業中變鬆，應將其旋得再緊一些。如果導套被旋得過緊，旋緊力則會變大。

(2) 拆卸鑽頭

請緊握環，同時左轉（從前方看時為逆時針方向）導套將其旋鬆。（見圖 8）

注意

當導套再也無法旋鬆時，請用老虎鉗或類似的工具將鑽頭固定住。接著將離合器模式設在 1 和 11 之間，然後在操作離合器的同時將導套朝放鬆的一側（左側）轉動。這樣一來導套應當易於旋鬆了。

註

- 在主機上有一個十字形起子機鑽頭，朝前拉便可卸下。鑽頭用過後，務請重新將其牢固地接在主體上。

8. 確認電池安裝正確。

9. 檢查旋轉方向

按選擇按鈕的 R（右）側，鑽頭便會順時針（從後方看時）旋轉；按選擇按鈕的 L（左）側則使鑽頭逆時針旋轉。（見圖 9）。(機身上標有 (L) 和 (R) 標記。)

注意

將本電鑽用作衝擊電鑽時，請始終以順時針方向旋轉使用本電鑽。

10. 開關操作

扣動扳機開關，則本機旋轉；鬆開扳機，則本機停止。

- 鑽機的轉速可通過改變扳機開關的扣動幅度來控制：幅度小則速度低，幅度大則速度高。

註

- 當馬達即將起轉時，可能會產生一種嗶聲。這只不過是一種噪音，而非機器故障。

11. 鑽入磚塊時

過分用力按電鑽絕不會提高鑽孔速度。這不僅會損壞鑽頭或降低工作效率，而且還會縮短鑽頭的工作壽命。當鑽入磚塊時，請以 10~15 kg 的壓力操作衝擊電鑽。

12. 使用掛鉤

附帶的掛鉤僅單觸便可安裝在左側或右側或將其拆下。

請在需要時正確使用。

(1) 安裝掛鉤

在安裝之前，先從工具內取出電池。然後插入吊鉤，使掛鉤的兩處槽與工具的掛鉤安裝部分的兩個突起相結合，檢查並確認掛鉤已牢牢固定。然後再裝回電池。（見圖 10 和圖 11）

(2) 取下掛鉤

請按照安裝時的相反順序取下掛鉤。

注意

- 使用前固定掛鉤。在未正確安裝掛鉤的狀態下使用會導致受傷。
- 使用掛鉤時，務請確認已裝入電池。若在未裝入電池的狀態下使用掛鉤，掛鉤會移位或掉下而導致受傷。
- 將衝擊電鑽掛在腰帶上攜帶時，請勿安裝起子機鑽頭以外的東西。如果安裝了帶有銳利端的鑽頭等，會導致受傷。

維護和檢查

1. 檢查工具

使用遲鈍的工具會降低效率並導致馬達故障，故若發現磨損，應即磨鋒或更換。

2. 檢查安裝螺釘

要經常檢查安裝螺釘是否緊固妥善。若發現螺釘鬆了，應立即重新扭緊，否則會導致嚴重的事故。

3. 清理外部

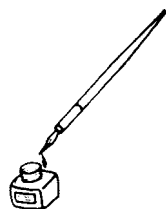
震動電鑽機沾污時，用乾軟布或沾肥皂水的布擦拭。切勿使用氯溶液、汽油或稀釋劑，以免塑膠部分溶化。

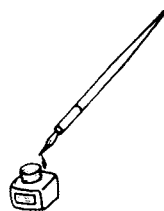
4. 收藏

震動電鑽機應收藏於溫度低於40°C而為小孩拿不到的地方。

註

為求改進，本所冊所載規格可能不預先通告而徑予更改。





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